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ABSTRACT

At the present time there is increased emphasis on the need to teach critical thinking in schools. "Critical thinking" is proclaimed as the new answer to what ails the schools of the United States. The problem, however, is how does one define critical thinking, and even if a definition can be given, how does one teach it? The idea that it is important to teach students to think is not a new one in education, nor is it new in home economics. Each of the instructional orientations that has been espoused can be found in home economics education: the process-based, the subject-based, and the development-based. Increasingly, educators are exploring the dimensions of what might be called an ethical-based point of view. When choosing an instructional approach, however, one might ask questions such as the following in determining its appropriateness for home economics education: (1) what importance does the approach assign to the learning of process? of subject matter?; (2) what importance does the approach assign to the developmental qualities of the learner?; (3) what importance does the approach assign to the societal or cultural context of problem solving?; (4) what importance does the approach assign to addressing the practical problems of everyday life faced by individuals and families?; and (5) what importance does the approach assign to the unexpected, the "irrational," the unique? There are no answers, only more questions. But within this context, the appropriateness of certain approaches will be more evident. (KC)

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ACHIEVEMENT OF VALUED ENDS THROUGH THE DEVELOPMENT OF HUMAN POTENTIAL: THE ROLE & RESPONSIBILITY OF THE PUBLIC SCHOOLS

Presented as part of a symposium on
"Is Critical Thinking Enough for Home Economics Education?",
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Dallas, Texas

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by

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THE RELATIONSHIP OF CONTEMPORARY MODELS OF CRITICAL THINKING TO HOME ECONOMICS EDUCATION

(Presented as part of a symposium on "Is Critical Thinking Enough for Home Economics Education?" by J. Gaines, 1986 American Vocational Association Annual Meeting, Dallas.)

The purpose of this presentation is to raise questions that will help in being "critical about critical thinking"--first by discussing characteristics of contemporary critical thinking theory and research, and secondly by asking whether these characteristics will be useful in reaching goals of home economics or whether others might be necessary. In doing this, Robert Sternberg's discussion of traditions of thinking about critical thinking will be used as a foundation for sharing what might best be called an emerging conception of factors dominating contemporary models. Questions will then be raised regarding the synchrony of these approaches and the purposes of home economics education.

Certainly the idea that it is important to teach students to think is not a new one in education, nor in home economics education. In fact, thinking is a phenomenon that has fascinated human beings for perhaps as long as the time they first discovered they were capable of it. Much has been heard in the last years of "paradigm shifts," and "rapidly changing technology," and the "information explosion,"--all in connection with the evolution of society into new and unexplored domains as a result of some kind of thought. Would we have moved from the agricultural era to the industrial era to what lies ahead, be it the post-industrial, the trans-industrial, the information society, etc., without humankind's capacity for thought? Our thinking capacities have energized and re-energized societies in multidimensional ways--not all of them healthy or ethical, obviously. Yet as we think of the relationship of any happening

in the social, economic, political, or educational sphere to some manifestation of thought, we must recognize that understanding different kinds of thinking is increasingly important.

In coming to this understanding, however, the advice of Alfred North Whitehead is perhaps well taken. He said, "Seek simplicity, and distrust it." Over the years, and especially again in the wake of reports and studies critical of the quality of learning occurring in schools, attention has again centered on teaching people to think critically. The underlying assumptions not only seem to imply agreement on what it means and its importance as a goal, but they also intimate that strategies are in place that make it possible to do--if only we would! Such simplicity should be distrusted, even as attempts are made to simplify the problems involved in home economics education.

At least ten years have passed since study associated with the redefinition of mission for home economics began again to raise questions about the responsibilities of the field--and of teachers--to develop students' ability to think critically about the perennial, practical problems of daily life. There have been many discussions, which interestingly seem to have progressed in a general way from a focus on should we do this, to how do we do it, to what is it, and can we do it. Someday perhaps there will be more intense examination of why it might be important.

For the present, however, meanings of critical thinking have drawn much attention; many meanings are associated with the concept. As these meanings influence what is done in practice, and as practice further influences thought, the concept of critical thinking has become more complex over time. Yet this very complexity has added to confusion about the appropriateness of various meanings as foundation for work with students in home

economics education.

One particularly helpful way of looking at models of teaching for critical thinking development has been provided by Robert J. Sternberg of Yale University. In a recent publication of the Association for Supervision and Curriculum Development, Sternberg described three traditions of theorizing that are particularly appropriate to the study of critical thinking. These are the philosophical, psychological, and educational traditions; he credits John Dewey for bringing them together in the founding of the modern-day critical thinking movement.

Special contributions of each of the traditions are noted by Sternberg. He cites the philosophical tradition for the development of formal logic systems--as a sort of "ideal" model of thought, the maximum potential. He recognizes psychologists for characterizing critical thinking as it is performed under the limitations of the person and the environment--a model of "less-than-ideal" realities. Sternberg then points out the ways that educators such as Bloom (1956) and Gagne (1965, 19 ?) have influenced instruction geared toward teaching for thinking through their taxonomies of cognitive and learning skills.

Sternberg goes on to describe characteristics of taxonomies within each of the traditions. He draws on the work of Robert Ennis in the philosophical group; Ennis has identified a set of dispositions that includes seeking a clear statement of the question, seeking reasons, trying to be well informed, and trying to be relevant. He also describes needed abilities: elementary clarification, basic support, inference, advanced clarification, and strategy and tactics. Sternberg's own work in the psychological tradition highlights metacomponents that include thinking about one's thinking and designing processes, performance components that execute decisions and provide

feedback, and knowledge-acquisition components used to learn concepts or processes. Bloom's taxonomy in the educational tradition is an especially familiar one--it identifies levels of cognitive information processing building from knowledge acquisition to comprehension to application to analysis to synthesis to evaluation.

From such theories and from observations and experiences in practices, teachers have built instructional approaches to help students learn to think. The more systematic models clearly affiliate with one tradition or another, and others assimilate various concepts into more eclectic orientations. From all of these, at least three instructional orientations can be identified: those which are process-based, those which are subject-based, and those which are development-based. Another orientation, which at this point seems to be ethically-based but relatively undefined in practice, appears to be emerging also.

The process-based, subject-based, and developent-based orientations are contrasted in Table 1. Compared are the knowledges considered to be important in critical thinking, the ways that abilities or contributions of the learner are considered, the responsibilities of the teacher in effecting critical thinking, and tne view of society inherent in the orientation.

In process-based models, the most important knowledge is mastery of the process. Content of thought other than the process itself is secondary. Teaching of logic tends to be separated from real-life situations. The classic model of scientific problem solving would be applicable here. Students are thought to be capable of "critical thinking" if the skills are acquired. Instruction tends to be technical, with skills thought of as

A Framework for Describing Characteristics of Instructional Orientations to "Critical Thinking"
--J. Daines, 1986, NAVTHE-AVA, Dallas

Instructional Orientation	Knowledge important to "Critical Thinking"	Abilities/Contributions of the Learner	Responsibilities of the Teacher	Needs of Society for "Critical Thinking"
Process-based	The most important knowledge is mastery of the process. Content of thought is secondary; the process can be applied to different subject or problem areas without substantive modification. Process is separated from real-life problem situations. It is the subject to be learned.	Learners are capable of critical thinking if appropriate skills are acquired. Since these skills are techniques, they can be broken down into manageable parts for the learner. Mastery of specific skills is presumed to lead to more holistic understanding. Learners are receivers of information.	Teachers introduce the process to learners and provide experiences in learning discrete skills associated with it. They are responsible for identifying a sequence of parts to be learned and evaluating skill development. Once the process is "learned," students can begin to combine it with subject matter to act on problems.	Society is viewed as predictable in that problem---and truth--are perceived similarly across subject areas and cultures. Problem solving approaches transfer across cultures. The amount of information accessible to persons cannot be "learned" because there is too much of it; information can be retrieved and then used in critical thinking".
Subject-based	The most important knowledge is mastery of the subject matter, for persons need content to think about. The nature of the subject matter determines the degree to which a particular critical thinking process may be applicable, for the philosophy, traditions, and values underlying a discipline or field of study influence the approach used. Content is not separated from the thinking process.	Learners are capable of critical thinking if the appropriate subject knowledges are developed. Subject-related knowledge tends to be defined as a constant, with certain parts acquired prior to others. There is a mystique associated with interaction of subject and process in critical thinking. Learners are receivers of information.	Teachers introduce the subject matter to learners and provide experiences in working with it. They are responsible for identifying the sequence of parts to be learned and evaluating knowledge development. Once the subject matter is "learned," students can begin to manipulate it with processes to act on problems.	Society is viewed as predictable in that natural laws govern its progression. There is a reality to subject matter that transcends cultures and disciplines. Knowledge exists as universal truth. Data contributed by a discipline or profession become part of what is to be learned and passed on to other generations. Society needs subject emphasis to give stability to problem-solving.
Development-based	The most important knowledge is understanding ways that development influences thought and action. Perceptions of the learner regarding the nature of the problem, the content, the alternatives, and the criteria are dynamic; the learner cannot be separated from the what, how, and why of his/her thinking.	Learners are capable of thinking appropriate for their developmental qualities. They can accommodate complexity in various ways through the holistic use of their senses. Parts are continually reconfigured to different "wholes", as learners actively process information from many sources.	Teachers facilitate learner development through providing appropriate challenges and experiences. They are responsible for helping the learner identify the questions that will lead to greater understanding and problem-solving.	Society is viewed as both unpredictable and predictable, in a tension which juxtaposes cultural change and tradition within a perspective of time. Reality is multidimensional, and normative. Truth evolves with the learners ability to grasp its dimensions and apply them to relevant problems of every day life.

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techniques. Mastery of all the skills is presumed to lead to holistic understanding. Learners are receivers of information, while teachers are responsible for providing it. Society is viewed as predictable in that problems--and truth--are perceived similarly across subject areas and cultures, therefore problems are solved in similar fashion. There is too much information in society to be learned. If processes of thinking are learned, information can be retrieved and used as necessary.

The subject-based models are very similar to the process-based, except that in these orientations the content of thought is the most important aspect, i.e., persons need subject matter to think about. The nature of the subject matter determines the degree to which a particular critical thinking process may be appropriate, for the philosophy, traditions, and values underlying a discipline or field of study influences the approach used. Again, content is separated from the thinking process. Learners are capable of critical thinking only if they "know" the body of knowledge associated with the problem. Subject-related knowledge tends to be defined as a constant, with certain parts acquired prior to others. Learners are again receivers of information about subject matter; it is the teacher's responsibility to see that this knowledge base is developed. Once the subject matter is learned, it can be manipulated with processes to act on problems. However, there is a mystique associated with the interaction of subject and process in critical thinking. Society is viewed as predictable in this orientation also; natural laws are considered important in determining how it develops. Subject matter has a reality that exists across disciplines and cultures; knowledge exists as universal truths. Data contributed by a discipline or profession becomes part of the information to be learned and passed on to other generations. Society needs such knowledge to give stability to problem solving.

A third orientation, the development-based, centers more on the learner within the context of society. The most important knowledge here is the understanding of ways that development influences thought and action. Perceptions of the learner regarding the nature of the problem, the context, the alternatives, and the criteria used to solve problems are dynamic; the learner cannot be separated from the what, how, when, and why of his/her thinking. Likewise, learners are capable of thinking that is appropriate for their developmental qualities. They can accommodate complexity in various ways through the holistic use of their senses. Parts are continually reconfigured as "wholes" as learners actively process information from many sources. The teacher's role is to facilitate learner development through providing appropriate challenges and experiences. They may help the learner identify quesions that would lead to greater understanding and ability to solve problems. Society is viewed as both predictable and unpredictable, in a tension which juxtaposes cultural change and tradition within a perspective of time. Reality is multidimensional and normative. Truth evolves with the learner's ability to grasp its dimensions and apply them to relevent problems of everyday life.

Remember Whitehead's advice at this point--seek simplicity, but distrust it. In trying to put a cutting edge on some thinking about a complicated thrust within a complicated profession, it is easy to put some chips in the blade. What is happening in education relative to critical thinking is not as simple or as clean-cut as I've tried to make it seem. Much more is happening. An example concerns debate concerning the degree to which human beings actually act as rational in the "ideal" sense described by the philosophic tradition. Recently, David Pears, Professor of

Philosophy at Oxford University, stated that it was a "mistake to use logical inference as a model for deliberation and action" because it was not a valid model of the human mind. Rather, individuals were seen by Pears as acting irrationally in spite of having deliberated and made decisions based on rational thought processes. This has important implications for professions such as home economics education, for action is the underlying goal of teaching for critical thinking. Observations about what people actually do relative to norms and values of society may help us understand why actions often fall far short of what might be expected if they were "critical thinkers" in an ethical sense. Educationally, being able to capitalize on all of one's capacities for processing information and using it in daily life situations needs to be considered.

Each of the instructional orientations that has been discussed can be found in home economics education: the process-based, the subject-based, and the development-based. Increasingly, we are exploring the dimensions of what might be called an ethical-based point of view. When choosing an instructional approach, however, one might ask the following questions in determining its appropriateness for home economics education:

1. What importance does the approach assign to the learning of process? subject matter?
2. What importance does the approach assign to the developmental qualities of the learner?
3. What importance does the approach assign to the learner's active involvement in establishing the focus and strategy of inquiry? to the teacher's?
4. What importance does the approach assign to the societal or cultural context of problem solving?

5. What importance does the approach assign to addressing the practical problems of everyday life faced by individuals and families?
6. What importance does the approach assign to establishing criteria for decision-making that reflect concern for family, societal, and individual effects?
7. What importance does the approach assign to the unexpected, the "irrational," the unique?

As you can see, there are no answers, only more questions. But within this context, the appropriateness of certain approaches will be more evident. Thank you for listening.

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